

NORTHERN ILLINOIS UNIVERSITY

*THE IMPLEMENTATION AND AUDIT OF INTERNAL CONTROLS
REGARDING THE USE OF XBRL FOR FINANCIAL STATEMENTS*

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By

Jesse M. Laseman

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Capstone Approval Page

Capstone Title

THE IMPLEMENTATION AND AUDIT OF INTERNAL CONTROLS
REGARDING THE USE OF XBRL FOR FINANCIAL STATEMENTS

Student Name: Jesse M. Laseman (Z1706325)

Faculty Supervisor: Dr. David Sinason

Faculty Approval Signature _____

Department of Accountancy

Date of Approval _____

HONORS THESIS ABSTRACT

XBRL is a global standard developed to aid in more accurate and efficient business reporting by capitalizing on interactive data. All business processes possess benefits and risk; including XBRL based financial reporting. Management and Internal Auditors must determine the risks associated and implement internal controls to mediate the indicated risks.

This paper explores the risks and controls associated with XBRL. The research was completed through performing a literature review of professional and academic articles. This information was backed up with information gained from various accounting professionals in both the internal and external audit fields.

The Capstone seeks to answer the question: To what degree is XBRL-based financial statements being reviewed by internal audit compared to the amount of risk assessment deserved on this process. This paper discusses the control options for process owners to implement and test to audit the effectiveness of such controls. The research ultimately found that internal audit and external audit do very little to ensure the financial accuracy of XBRL-based financial statements, while companies still have full liability over this interactive data.

The ultimate goal is to inform internal audit professionals on the importance of implementing and testing controls within XBRL-based financial reporting.

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THE IMPLEMENTATION AND AUDIT OF INTERNAL CONTROLS REGARDING THE USE OF XBRL FOR FINANCIAL STATEMENTS

A Literature Review

SUMMARY

XBRL is a global standard developed to aid in more accurate and efficient business reporting. It is an application technology that benefits the reporting companies, regulators, analyst, and investors. All business processes possess risk; including XBRL based financial reporting. Management and Internal Auditors must determine the risks associated and implement internal controls to mediate the associated risks.

Jesse M. Laseman

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THE CONCEPT OF DIGITAL FINANCIAL REPORTING

To understand XBRL, it is crucial to understand the concept of digital financial reporting. Digital financial reporting is known by several different names depending on the company or regulatory body. For example, such reference names include *interactive data* or *structured data* used by the U.S. Securities and Exchange Commission, *structured digital reporting* used by the IFRS Foundation, *disclosure management* used by PWC, or *Extensible Business Reporting Language (XBRL)* as used by XBRL International. Big data and technology are transformative in how business is done. Companies are embracing technology to better engage with customers, to streamline operations, to enhance security, and to ultimately remain competitive. While technology is upgrading numerous business processes, the financial reporting process has changed minimally.

The purpose of financial reporting is to provide information on the financial condition and position of an organization to management and stakeholders, allowing them to make informed decisions. Financial reporting has existed for thousands of years in various forms to report different types of information (Hoffman & Egmond, 2017). There have been numerous advancements that have made the distribution of financial reports simpler, such as paper, the printing press, and the internet. To contrast, few notable advancements have been made to transform how these financial reports are developed and used. Still, for the past 100 years the financial reporting process was paper based and only within the past 30 years have reports been created electronically using a word processor (Hoffman & Egmond, 2017). As of 2015, nearly 85% of external financial reports were created using Microsoft Word or Excel (Hoffman, 2015A). These methods that replicate paper financial statement reporting fail to aid the user in creating these financial reports and streamline the process of report generation. For financial reports to be beneficial they must be timely, complete, and free from material errors. Digital financial reporting ensures that generated reports are timely, complete, and free from material errors.

Digital financial reporting is a revolutionary concept that utilizes the existence of technology to bring significant change to the financial reporting process. It utilizes machine-readable technology to generate reports that can be read by both machines and humans (Hoffman, 2015A). These software applications understand the information being entered into these reports and their business meanings. The software has the capabilities to mold the information within required industry constraints and financial reporting standards such as IFRS (International Financial Reporting Standards) and GAAP (Generally Accepted Accounting Principles). Compare digital financial reporting to that of creating designs and blueprints using the architecture application of Computer-aided Design (CAD). Much like how these softwares are programmed to understand floorplans; digital financial reporting is programmed to understand financial reports and the various accounting standards (Hoffman, 2015B). Blueprint software understands what a door and a window are, the units needed to measure each, and that both must be embedded into a wall. Similarly, these applications understand what a balance sheet is, how depreciation works, and so forth.

The potential benefits of digitizing financial reports are endless. When these reports are machine-readable, computers can work to understand the information, allowing them to help the user generate financial statements. With this innovation, the software can take an advisory role and provide guidance related to the creation and review of a financial reports. For example, if the computer understands accounting standards, then it can work to make sure the compiled reports comply to such standards. With digital financial reporting, much of the work can be automated because the software can shuffle information through the workflow because the linking of the data is based on the meaning rather than the physical location within a spreadsheet (Hoffman, 2014). Financial software can improve the quality of financial reports and improve how they are used. Digitalizing financial reports reduces the potential for human error through automation which also ensures that the data is accurate. Information created using a digital financial report will travel through the entire supply chain so more decisions can be made on the most up to date financial information (Hoffman, 2014). The data can easily be reconfigured and repurposed to suit the needs of the user without much time or effort. The structure enables computer software to provide more accurate comparisons between different time periods and companies (Hoffman, 2014).

OVERVIEW OF XBRL

XBRL is a necessity in the world of digital financial reporting. XBRL, short for eXtensible Business Reporting Language, is an open international standard for exchanging business information. The change from paper, PDF and HTML based reports to XBRL ones is a little bit like the change from film photography to digital photography, or from paper maps to digital maps. The standards are based on XML (Extensible Markup Language) and used to report business and financial information through the internet (Strader, 2007). Markup languages were designed to command the processing, definition, and presentation of text. The language uses code for formatting the layout and style of a document within a text file (Bray & Paoli, 2001). XML is a markup language, much like HTML, that structures a set of rules for encoding documents in a layout that is human and machine-readable. HTML (HyperText Markup Language) is the most basic building block of the Web and describes and defines the content of a webpage or application. XML is the governing rules regarding digital financial reporting that XBRL is working under. XML was created to format, collect, and transfer information.

The idea behind XBRL is simple. Rather than treating financial information as a plain text, such as standard web page or a printed document, XBRL provides an identifying XML tag for each individual item of data, whether numeric or textual. This tag is computer readable and allows the information to be used interactively. XBRL builds upon XML, but also encompasses other standards to enable features important to business reporting. Examples of these additional features include the development of relationships between concepts and extensibility, which is not available in XML (Farewell, 2010). XBRL provides a language in which electronic reporting terms can be strictly defined. Those terms can then be used to uniquely represent the contents of financial statements in a consistent and compliant matter, no matter the applications being used. XBRL works by taking company business reporting data, mapping the structure of the information to XBRL for financial statements, and creating any additional tags needed to render a full set of financial statements. It allows accountants and regulatory agencies to identify items that are unique to the business reporting environment (Farewell, 2010).

Since XBRL is a relatively modern concept, several misconceptions have developed such as the idea that it is an independent standard. XBRL should not be confused as a standard chart of accounts (Agarwal, 2013). In fact, XBRL is the opposite because it can be personalized to the specific need of the user. XBRL does not require companies and organizations to disclose any additional information compared to traditional methods (Agarwal, 2013). Digital financial reporting carries the same regulations as traditional methods. XBRL is not created to establish new accounting standards but to enhance the usability of the ones through digital financial reporting. Reporting agencies, regulatory bodies, and governments determine what information must be disclosed, so additional disclosures are not required. On the other hand, some companies may choose to disclose more information due to the benefits XBRL brings. XBRL is about more than just financial or regulatory reporting (Agarwal, 2013). The benefits of XBRL extend beyond financial reporting to internal purposes.

XBRL TAXONOMY AND EXTENSIONS

XBRL taxonomies are the foundation of interactive data. A taxonomy is an assembly of financial concepts (also called elements) in which each concept is defined by its business purpose, like a dictionary (Hoffman & Egmond, 2017). It serves as a classification system that provides a limited amount of structure in the form of a hierarchy. This structure helps ensure that the property of an element is used within the hierarchy to group related elements. These hierarchical dictionaries used within the XBRL community define the specific tags that are used for individual items of data (such as “net profit”), their attributes and their relationship with other elements. The definitions are also tied to a reporting standard such as IFRS. This means that no matter how the company defines an item (such as an asset) it will follow the applicable reporting standard. Interactive data is created when the content (or structure) of information is separated from its method of presentation (Watson, 2006). In this case, taxonomies is the information about the structure of the financial report in terms of its content. These taxonomies are also able to define the relationships between different concepts and understand how the cause-effect relationship between each. For example, cash is a balance sheet item that can be used to decrease a company’s accounts payable and increase asset accounts. A XBRL taxonomy is programmed to understand cash, its attributes and interrelationships to other accounts, which empowers the software to reduce the chances for human error. These taxonomies are very complex to understand and to develop. The US GAAP Taxonomies contain over 15,000 elements representing commonly reported financial concepts for US GAAP financial statements (XBRL Basics-How Does It Work).

Tagging is the most important step in implementing XBRL into the financial reporting process. It is the action of tying the selected Taxonomy to the entity’s individual financial data. This financial data is tagged to the appropriate element in the selected accounting taxonomy that can be used to define the purpose of its entry. For example, it is this step where the entity tags its depreciation account to the taxonomy in compliance to the standard. This technical process is crucial because it ensures that all the information provided to all users means the same thing, minimizing the chance for misunderstanding. (Hoffman & Egmond, 2017). Since all XBRL reports use the same taxonomy, numbers associated with the same element are now easier to compare. The tagging process is performed during the generation of an instance document. An

instance document is the file that encompasses the entity's specific business reporting information in a structured manner that all XBRL softwares will recognize and trade (Hoffman & Egmond, 2017). The instance document is an XML file that brings all concepts together as it is here the entity specific data is tagged to the defined elements in the taxonomies to form a XBRL document; which may be sent to its consumer and rendered. The rendering of an XBRL document through a XBRL software allows it to be viewed and read by humans in a traditional method.

A wide range of taxonomies are needed to meet the diverse amount of business reporting purposes. Different taxonomies will be required for different business reporting purposes. If a concept does not exist within a public taxonomy there is the opportunity to add to or change the elements to meet the company's needs; called a Taxonomy Extension (Hoffman & Egmond, 2017). The extensibility of these taxonomies is one of the most important qualities of XBRL as it allows for the wide adoption and uses of XBRL. With this, taxonomies can be personalized to various industries and companies to meet their individual needs. Some national jurisdictions may demand their own reporting taxonomies to reflect local accounting and reporting rules. For example, the Mexican Securities Regulation uses an extended and personalized taxonomy based from the IFRS 2014 Taxonomy (Who else uses XBRL, 2017). When an extension off a public taxonomy is created, the taxonomy works to keep things logical for the user and ensure that personalized financial statements are kept within the constraints of the standard (Hoffman & Egmond, 2017). For example, when the Mexican Securities Regulation extended their taxonomy from the 2014 IFRS Taxonomy than the standards and accounting expectations still are complying to IFRS. While the Mexican Securities Regulation may account for depreciation in this manner, the extension ensures that the method is still in compliance to IFRS. If a company decides to account for the depreciation of such assets in a unique manner, the taxonomy helps ensure that the chosen accepted method complies to IFRS.

HISTORY OF XBRL

Since XBRL is a relatively new standard, its history is relatively short. In 1998, Charles Hoffman, nicknamed the father of XBRL, had the idea of XBRL to make financial reporting more efficient and effective. This Tacoma, Washington CPA investigated XML for the electronic reporting of financial statements and began developing prototypes of audit schedules and financial statements using this format (Roohani, 2008). The AICPA, short for American Institute of CPAs, immediately supported Hoffman's idea by spearheading a task force to create a proposal for the creation of an official prototype set of financial statements using XML. By the end of 1998, Charles Hoffman, Mark Jewett, and the selected taskforce developed a complete prototype which was funded by the AICPA, whom deemed it important to the profession (Roohani, 2008).

The next step for the AICPA was to create a business plan to understand how simple it would be to implement XML within the mandated financial reporting process. In 1999, the AICPA steering committee was joined by 12 companies and sponsors such as Microsoft Corporation, KPMG, FRx Software Corporation, and many others (Roohani, 2008). Through the efforts of the AICPA and the sponsors, a framework of specifications and taxonomies was produced to support providing a standard, XML-based language for digitizing business reports. In the same year, 10

companies filed financial statements in this format to beta test the prototype for errors (Roohani, 2008). XBRL specification then officially took off as the committee announced the official release of the first specification for U.S. companies in 2000. Since then many regulatory bodies, financial agencies, and companies have begun to call for the use of XBRL such as the Securities and Exchange Commission (SEC), the Brazil National Treasury, and the Central Bank of Indonesia.

USERS OF XBRL

The number of potential users for XBRL is countless as this language can be applied to a broad range of business and financial data. It allows the company to produce internal and external financial reports with more accuracy and efficiency (Benefits and Potential Uses of XBRL, 2017). All parts of the supply chain, the finance department, and management can use XBRL to generate reports in a timelier matter; helping make more well-informed decisions. Companies using XBRL now can generate more personalized reports for internal and external purposes. Internal auditors can use XBRL to better ensure financial accuracy, improve processes, and ensure compliance. It can also be used in filing process of loan reports and other financial applications.

XBRL assists with the reporting and the exchanging of information within all types of regulators such as tax authorities, financial agencies, central banks, and governments (Benefits and Potential Uses of XBRL, 2017). Regulators use XBRL to sift through complex financial and risk information to monitor the organization's performance and to ensure compliance. XBRL can also be utilized to better capture tax revenue. Securities and stock market regulators use the capabilities of XBRL to analyze performance and to better understand the market. Government groups supplying the rules and regulations use XBRL to simplify the process of business reporting to reduce reporting violations, by standardizing the way that reports are prepared.

Data providers use performance and risk data published using XBRL to create comparisons and other value-added information to help stakeholders make informed investments (Benefits and Potential Uses of XBRL, 2017). Analysts use XBRL to visualize both risks and performance of investment options to understand investment options. Investors can use XBRL to compare potential investments and make better informed decisions. Investors now can reform a financial statement to allow company financials' to be more comparable. Auditors can use XBRL to better provide assurance services for their clients. They can use XBRL data to better understand the business process and ensure that the financials are correct because the data is interactive. Rating organizations, such as Moody's, can use XBRL to provide more accurate ratings for those who rely on it. Rating agencies can reform the data to better understand the company's financial stability and compare it to other firms. The number of potential users is countless as it is used in the report generation and distribution process.

XBRL TODAY

Today, the progress and monitoring of the use of XBRL is done by a global consortium called XBRL International. This association consists of over 600 member organizations, from both the public and private sector, concerned with the digitizing of the financial report process to improve

accountability and transparency (Background of XBRL). This group is responsible for the development and maintenance of the specifications that make up the standards. Under the umbrella of XBRL International are 23 formal jurisdictions which are recognized as the official representatives from their country and work to personalize XBRL to their region. XBRL US, the US jurisdiction, is a not-for-profit organization that separated itself from the AICPA volunteer committee in 2006 (Background of XBRL). XBRL US has the purpose of supporting the implementation of digital reporting standards through the development of taxonomies for use by both the public and private sectors. The AICPA still strives to support the development and adoption of XBRL by developing educational tool and encouraging members to participate on committees within XBRL US and XBRL International.

Each year, millions of XBRL reports are generated. The use of XBRL has taken off in various parts of the world and is either mandatory or voluntary depending on the region. Approximately, 29 regulators in 35 countries across the globe have mandated XBRL as a required electronic reporting format (What is XBRL?, 2017). Examples of implementation include the Tokyo Stock Exchange, Korea DART System, and Indonesia Stock Exchange. Over 25,000 companies now file with their securities regulators using XBRL (Trites, 2016). This number will continue to grow as more government agencies and regulators see the benefits that structured data brings to different stakeholders. Given the increased volume of corporate data now reported globally in XBRL format, the demand for tools to access XBRL data is on the rise. For this reason, it is now the optimal time to raise awareness and encourage development of tools for analysis. The demand for digital financial reporting softwares and XBRL-related consulting services are growing exponentially. While this is a large concept, there is always room for growth as the technology becomes cheaper and more beneficial for companies to implement. XBRL is demonstrating the snowball effect within the area of digital financial reporting.

BENEFITS OF XBRL

XBRL offers a significant number of benefits at all stages of the business reporting and analysis process. Those who benefit include the company's management, financial information companies, investors, governments, regulators, economic agencies, and stock exchanges. Some of these benefits are tangible while others are intangible.

By utilizing XBRL, companies and producers of financial reports can automate the data collection process. The automating of the reporting process allows for improved speed, greater financial accuracy, and improved data immigration efficiency. Thanks to XBRL, information only needs to be entered once before it is sent to all users. It has been reported that this reduces the need for repetitive data entry and that it reduces human error (Ahrendt, 2009). Since the software application understands accounting, it can aid the user in eliminating the chances of errors. Data from across the company, housed in different accounting systems, can be assembled efficiently if XBRL is utilized. This would also make it easier for companies to go through the merger and acquisition process. XBRL even has the capabilities of consolidating information from different subsidiaries and entities. This allows all affiliated parties who rely on the same data to have the most updated data for decision making. The automation process of generating reports saves time, which ultimately saves money, and allows more informed decision making. XBRL holds the key for management to enhance internal reporting as the data is updated in real

time and the reports can be specialized as needed (Ahrendt, 2009). Management and the users can personalize reports to generate information they rely on. This generates long-term value as the company demonstrates its technical skills to the market; which may attract investors (Ahrendt, 2009). The benefits for the company due to XBRL will increase as they rely more on this software applications for operations.

XBRL brings countless benefits to external analysts, rating agencies, and investors. These groups spend a significant amount of time converting reports and comparing information provided by different companies. The technology behind XBRL allows these groups to reform the information in a more convenient manner. XBRL allows for comparisons of the financial information from multiple companies, side-by-side, without having to extract this information from each filing, or can support inter-period comparisons for single company or multiple companies (Ahrendt, 2009). This can be done without having to rekey numbers, saving time and money while allowing external analysts to make more informed decisions and utilize their resources. There is also the optimistic possibility that companies may start providing more information because the financial reporting process is now streamlined (Ahrendt, 2009). External analysts can also have more confidence in the information that is being provided. The user is aided by the software that understands accounting so a series of checks and balances are in place when generating reports. Another reason for the increased confidence in the generated reports is that XBRL dramatically decreased the human error rate (Ahrendt, 2009). Furthermore, a reporting system based on XBRL is easier to audit than other systems, as XBRL ensures a detailed audit trail, allowing for greater confidence with the data. In summary, the use of XBRL allows these groups to save time, cut costs, and have greater comfort in the data quality.

Governments and financial regulators, such as the SEC, also benefit with the growing use of XBRL. These parties have the duty to ensure that all information provided to the public is accurate and in compliance with relevant rules and guidelines. Since these reports are created using a tool that understands different standards and regulations then the chances of noncompliance decreases (Ahrendt, 2009). This allows these regulatory agencies and governments to shift focus to more value-added activities. This technology enhances the transparency and reduces the filing burden for both the companies and the regulators receiving the reports. Using the concept of tagging data items (such as accounts payable) it becomes easier to understand how a company is doing regardless of national and international differences in reporting standards, languages and terminology (Ahrendt, 2009). These regulatory bodies can also receive more accurate financial data to make decisions. For example, in a recent demonstration of data-mining tools that sifted through XBRL tags in SEC filings found nearly \$1.5 trillion in taxable foreign income that has yet to be taxed (Sheridan and Drew, 2012). Regulators and government groups can also sift through this data on a macro level to understand market trends and monitor for trends that lead to economic downfall. XBRL can be used to track those negatively detrimental assets. Mark Bolgiano, CEO of XBRL US, claims the standard could even be used to track the underpinnings of asset-backed securities that contributed to the financial collapse in 2008 (Ahrendt, 2009). The benefits for regulatory agencies grow and expand as the number of users increase.

LIABILITY OF XBRL FINANCIAL STATEMENTS

In 2009, the Securities Exchange Commission (SEC) adopted rules that would require publicly

traded companies to disclose their financial statements within an XBRL format, whether these companies were domestic or foreign. The primary purpose of the amendments is to make financial information easier for investors to analyze and to help companies automate regulatory filings and business information processing. The rules require companies' updated or revised financial statements, notes, and financial statement schedules to be provided in XBRL, along with the company's identifier information. The rules supplement, but do not replace or change, disclosure using the traditional electronic filing formats in ASCII or HTML. As mandated, the XBRL data must be required as an exhibit to a company's annual (10-K), quarterly (10-Q), and transition reports (SEC Rules for Reporting Financial Statements in XBRL Format, 2017). These XBRL disclosures must include the essential financial statements such as the balance sheet, income statement, statement of comprehensive income, statement of cash flows, and statement of owners' equity.

For simplicity and accuracy, the SEC created a three-year phase-in schedule. Filers will become subject to the interactive data requirements in three groups. Smaller reporting companies will be in the last group. This requires all public filers with the SEC to include XBRL-based financial statements to be disclosed along with any traditional financial statements. By having a phase-in schedule, the SEC can more easily monitor the success of transitioning to XBRL-based reporting. The first phase-in group, which began filing in June 2009, consisted of all large accelerated filers with a worldwide public common equity float over \$5 billion at the end of their most recently completed fiscal year. Nearly 500 companies, defined by these standards as large accelerated filers, were required to start providing financial statements in an XBRL format (Rajagopal, 2013). This includes all domestic and foreign filers to the SEC under either U.S. GAAP and IFRS. The second phase-in group, which began filing in June 2010, consisted of all other domestic and foreign large accelerated filers with a public equity float between \$700 million and \$5 billion (Rajagopal, 2013). The last phase-in group, which began being mandated to file on June 2011, consisted of all remaining public filers. This includes all remaining filers using U.S. GAAP, including smaller reporting companies, and all foreign private issuers that prepare their financial statements in accordance with IFRS (Rajagopal, 2013). By the end of 2011, all companies filing their financials to the SEC have been required to start providing financials in a XBRL-related format. Companies may provide interactive data at their discretion until required by the phase-in schedule criteria but were not required. It was 2011, all publically traded companies in the United States were required to start reporting financial statements using a XBRL.

If a company has a material error within its XBRL-based financial statements and an investor makes decisions based on such information, then that investor now has grounds to sue. The SEC and other regulatory agencies can fine and penalize the filer for having material errors that go unfixed. If significant risks exist within a firm's digital-based financial reporting process and the internal controls implemented are ineffective, then the enterprise can be penalized for a significant amount, costing more money, hurting the firm's reputation, and keeping the firm from achieving its business goals as an effect. Errors in the XBRL filings can be costly, just the same as traditional paper-based filings. Those errors can impact legal, reputational and other reporting risks.

EXTERNAL AUDIT AND XBRL

Third parties such as auditors or consultants, are not required to provide for assurance for interactive data submissions. While auditors are required to provide an opinion on the accuracy and completeness of traditional financial statements, no opinion needs to be provided in regards to XBRL-based financial statements. There are absolutely no expectations for external auditors when it comes to XBRL-based financial statements. Per the rules published by the SEC, auditor review and approval is not mandatory. Under the rules created by the SEC, auditors would not be required to apply AU Sections 550, 722, or 711 to the XBRL interactive data (SEC Rules for Reporting Financial Statements in XBRL Format). Section 550 discusses the auditor's responsibility in relation to other information in documents containing audited financial statements and the auditor's report thereon. Section 722 works to establish standards and provide guidance on the nature, timing, and extent of the procedures to be performed by an independent accountant when conducting a review of interim financial information. Section 711 discusses the responsibilities regarding filings under federal securities statutes. The Public Company Accounting Oversight Board (PCAOB), has no standards for auditors to review and state an opinion on the XBRL related financial statements.

The Sarbanes-Oxley Act was passed in 2002 to build and restore investor confidence in public financial reporting. The act strived for the purpose of increasing investor confidence by calling for tougher regulations and oversight in regarding to financial reporting; that affected the reporting company and the auditors. SOX 404 discusses management's assessments of internal controls within the financial reporting process (SOX. Title IV, Sec. 404). This portion of SOX states that all annual financial reports must include an Internal Control Report in regards to the financial reporting process. This report states that management is responsible for a sufficient internal control structure and that management must assess the effectiveness of these controls, and disclose any materially ineffective controls within the financial statements. Per a PwC publishing, XBRL- related controls are not within the scope of Sarbanes-Oxley Section 404 (XBRL Reporting Risk and the Role of Internal Audit, 2011).

At the same time, the two Executive Office Certifications of Section 302 and 906 of SOX do not apply to XBRL-based financial statements as disclosed in the Code of Federal Regulations (Section 240.13a-14 and 240.15d-14). Section 302 mandates a set of internal procedures designed to ensure accurate financial disclosure. Section 302 shows that the signing officer has reviewed the financial statements, and based on the signee's knowledge, the report does not contain any material errors. With this, the signing officers must certify that they are responsible for establishing and maintaining internal controls (SOX. Title III, Sec. 302). By signing the financial statements, management certifies that the organization has designed such internal controls to ensure that material information relating to the company is made known, especially when periodic reports are being prepared. External auditors are required to issue an opinion on whether effective internal control over financial reporting was maintained in all material respects by management. Section 906 addresses criminal penalties for certifying a misleading or fraudulent financial report. Under SOX 906, penalties can be upwards of \$5 million in fines and 20 years in prison (SOX. Title IX, Sec. 906). Unfortunately, this does not apply to SOX 906, so if fraudulent reporting is committed within the XBRL documents, the signees are not held liable. Since XBRL financial statements are not covered by SOX 302 or 906, external auditors have no expectations to audit the accuracy and completeness of the XBRL-based financial statements.

A conversation with a Partner at KPMG confirmed that external auditors are not required by any standard to apply an opinion over the XBRL-based financial statements. A manager at PwC revealed the same findings. The interview revealed that there is no audit requirement for XBRL-based financial reports. These discussions show that there is a lack of external oversight or review prior to submitting XBRL-based financial statements. While the audit team tends to avoid testing the financial statements and providing an opinion over their financial accuracy, the team may sometimes review the documents and provide comments for improvement. This does not occur often as the manager from PwC explained the firm has very limited resources dedicated to XBRL; only four employees within the United States have XBRL knowledge. The interview also revealed that financial accuracy and completeness will not become an audit requirement until an audit requirement is created or the auditee requests it. For public accounting firms to do more with XBRL, they will need to increase the number of resources committed to XBRL. Due to the lack of external review, the presence of controls and internal audit is less likely to protect the company from the financial reporting risks because no oversight is being provided to ensure so. As such, there is no independent auditor assurance requirement from the SEC governing public companies filed XBRL data. This sets up the potential for conflicting expectations between companies and investors, who may assume XBRL data has been independently audited.

RISKS ASSOCIATED WITH XBRL

Users of this XBRL information expect the XBRL files to be complete, accurate, and parallel to the information contained within the traditional financial statements. The most significant risk with XBRL is providing information that is not consistent with the corresponding financial statements. A secondary risk is that the XBRL-formatted information fails to comply with the various standards and rules, especially the rules contained in the Edgar Filer Manual. The Edgar Filer Manual is a listing of all the guidelines and regulations that public filers must abide by when filing to the Securities and Exchange Commission. Other risks associated with XBRL filings include missed filing deadlines because of the added effort required by XBRL and failure to safeguard confidential information (when working through a third party). These risks are significant. These risks are caused by errors in the four-step process of preparing a XBRL document: mapping, extending, tagging and validating the information (Bartley and Taylor, 2010).

As explained previously, mapping is the action of identifying and matching every accounting concept and the related amount in a company's financial statements to the appropriate financial statement element. Mapping errors are both the most common and serious errors as they distort the meaning of the data downloaded into the application (Bartley and Taylor, 2010). These errors can be difficult for users to detect until the review stage, where the XBRL elements are compared to the traditional financial statements. There are countless ways to make a mapping error in regards to the XBRL document. For example, the user must choose from multiple similar elements (such as interest income and interest income tax). Mapping these elements incorrectly can cause repeated mapping errors, because the original map work is now used as a template for future documents (Bartley and Taylor, 2010). Another example of a common mapping error is the creation of unnecessary, unjustified, and new elements that "extend" the applied taxonomy (Bartley and Taylor, 2010.) This occurs when a preparer does not locate the correct element in the taxonomy and instead creates a new unique element to define the financial statement concept.

The extension process creates new XBRL elements in the taxonomy which make the company's financial statement personalized and unique. The XBRL code for creating these extensions allows the company to establish unique presentation labels for elements and to control the location of these elements within the financial statement (Bartley and Taylor, 2010). These extensions work with multiple mathematical relationships that allow the sum of amounts within a related group to be validated. Errors in established extensions can cause serious variances in the financial statements as they distort the interpretation of XBRL data input into the analytical software (Bartley and Taylor, 2010). Example of these errors include instances when the financial statement elements are presented in an incorrect order or are included in the wrong financial statement all together. These errors can also cause the total or subtotal of the group of elements to be incorrect. Another crucial error is the failure to create presentation labels for elements that replicate those found in the traditional financial statements.

As explained in previous sections, tagging is the process of entering both numerical and textual data for financial statement elements, including dollar amounts, time periods, and units of measurement. Tagging errors are less common than mapping and extension errors, but are detrimental because the erroneous data distort both the rendered financial statements and data downloaded into analytical software (Bartley and Taylor, 2010). Numerous tagging errors can be made, including straightforward data-entry errors, or more commonly, tagging elements with the incorrect period, incorrect sign, or incorrect rounding. These sign errors typically occur for reasons other than a simple keystroke error (Bartley and Taylor, 2010). Correctly tagging signs is difficult because of the distinction between debit and credit element value and the idea that the element can be either a positive or a negative depending on its location and business meanings in the financial statements. XBRL standards require the allocation of positive signs to all elements having values consistent with the natural balance, while some elements lack a balance initially. For these elements, the signs need to be established when the amounts are entered in the tagging process and may require further manipulation in the extension process to achieve the most correct presentation.

The last steps in preparing a XBRL financial statement for submission to the regulatory body are the creation and validation of the various instance documents containing all the tagged financial statement elements and related presentation information. It is in this stage that the risk of various errors going unidentified is greatest. The finalization of these documents is straightforward and technical. Failing to conduct adequate software validation and a manual validation allows many of the errors discussed to go undetected. Validation software automatically reviews and identifies most, but not all, violations of XBRL standards. It verifies mathematical accuracy when the extension process has established the mathematical relationships among the financial statement elements and their totals; however, as noted earlier, XBRL currently cannot specify all financial relationships in the statements (Bartley and Taylor, 2010).

Through a discussion with the Navistar International Director of Internal Audit, the company has not documented any risk associated with XBRL-based financial reporting. An elaboration on the subject revealed that risks were not documented and acted upon because management does not deem XBRL as a focus in the financial reporting process. The organization puts all its focus with traditional reporting methods of financial reporting and XBRL is often overlooked. The Vice

President of Internal Audit at Microsoft has identified that the greatest risk would be that the information in the XBRL financial statement is incorrect. The chance also exists that a number within the paper-based financial statement could be omitted from the XBRL-based financial statement and vice versa. Microsoft has also identified the risk that an inaccurate tag is used, making the information inaccurate.

INTERNAL CONTROL OPTIONS WITH XBRL

For many companies, reporting errors go undetected due to ineffective processes and/or inadequate review procedures. There are many controls that can be implemented in the XBRL-based financial reporting process. The number of potential controls varies, based on where the company is in the XBRL implementation process. For example, auditors should stress the importance of internal controls more if the company is completing all the XBRL-based financial statements without the assistance of a third party. If the company uses a third party, the company may be limited with process controls to ensure that review controls are in place. If the company completes all the XBRL-related work on its own, then they will need to ensure that controls are in place for each of the four stages: mapping, extending, tagging and validating the information. Regardless of the amount of controls put in place, the process owners and internal audit should make sure to document all of them.

Beyond the placement of review controls, which ensure that the XBRL-financial statements are being reviewed, a company can implement data entry controls. These controls limit what the user can do when working within a XBRL instance document and application. For example, a user should not be allowed to put in a negative value for a positive account, such as cash. Also, controls can be created to make sure that the user cannot key in an extra digit. For example, instead of having \$1,000 of petty cash on hand, the user accidentally keys in \$100,000. The existence of a data entry control ensures that the user cannot make type in too many numbers as these controls limit the number.

XBRL-related controls are less formal than other financial reporting controls and are typically not fully documented. Through discussions with various internal audit professionals, a better understanding can be created on how different companies are implementing internal controls with XBRL. There are two ends of the spectrum that were found: the companies with internal controls and those without. The difference varies greatly on if the company uses a third-party for completing this process. The Director of Internal Audit at Navistar International, indicated that the company has no identified controls over the XBRL process within their system. It is important to note that the company outsources the essential XBRL-related tasks. This means that Navistar has few recorded controls in place, if any at all, to ensure that the information in the financial statements is complete, reliable, and in compliance with all pertaining regulations. A company with many controls in place over the XBRL process is Microsoft. The Vice President of Internal Audit at Microsoft explains that the company has implemented multiple levels of review controls. Microsoft is more likely to implement controls because management and internal audit has identified the risks. It is also more likely to introduce controls because the company performs all XBRL-related tasks instead of outsourcing. Per the interview with the Vice President of Internal Audit, it has been indicated that the company carefully documents each control pertaining to the accounting review of XBRL and updates this list each quarter. The company also has a charted process in place to check the completeness and

accuracy of the XBRL filing by comparing it against the 10-Q or 10-K. This two-way check is completed by comparing the information in the XBRL filings to that of the 10-Q/10-K and vice versa. The corporate accounting team conducts a quarterly review with senior management to analyze and confirm the appropriateness of the most judgmental areas in the tagging process. Any changes to the tagging are completed before the final retranslation.

AUDITING XBRL CONTROLS

As previously indicated through discussions with Director of Internal Audit at Navistar, the company had no controls in place over XBRL-based financial reporting. Since there is a lack of identified controls in place, internal audit is not capable of testing the efficiency of such controls. Because of this, internal audit at Navistar International performs no tasks annually that pertain to XBRL. On the other hand, Microsoft does not test the effectiveness of the controls in place with the XBRL process. During the review process of XBRL-based financial reports, the team documents the results of verifying the information and notes the essential changes. Internal audit then reviews the documentation and the accuracy of the XBRL financial statement to ensure that the appropriate level of review was applied. Microsoft carefully documents the audit steps and the results to determine the effectiveness of the procedures and controls.

XBRL OUTSOURCING

XBRL-based financial reporting can be excessively complicated, time consuming, and time sensitive. For such reasons, some companies prefer to outsource XBRL-related tasks. Outsourcing is the practice of transferring portions of work, in this case XBRL services, to outside suppliers rather than completing it internally. A XBRL consultant can offer a range of service options, from XBRL financial statement assessment to one-time tagging services, to full XBRL outsourcing (Condran, 2016). What each company chooses to do depends on many variables such as how complex the XBRL portion of their filing is, how knowledgeable the company is about XBRL, and how much time and money has been budgeted toward the XBRL filing process.

Companies even can outsource the entire creation of XBRL financial statements to these vendors. Many public filers tend to outsource XBRL related tasks completely. In this form of outsourcing, filers choose a third party to do the hard work of selecting and mapping XBRL tags to financial reporting facts, creating custom extensions, building the extension taxonomy and populating the instance document – in short creating the XBRL filing. The third-party agencies that offer such services are called financial printers. A financial printer is a firm that specializes in printing financial reports for various customers in the financial services sector. These companies, such as RR Donnelly and Borer Financial, specialize in printing financial information within different formats in a secure environment to prevent the leakage of any critical financial information. This process is iterative, whereby the financial printer creates the XBRL files then returns some form of rendering (often a web based tool or an Excel workbook) for review. The filer must review and comment on the tags selected and make changes where desired. There are usually three to five rounds of tag selection and approval to guarantee the filer is involved in the process.

While the option of outsourcing the preparation of essential financial statements in a XBRL

related format has many benefits, there are some large costs associated. One of the most significant costs is that the company loses the ability to put controls in place to ensure the financial statements are accurate and complete. While the filer can review the financials prior to publishing, it is the existence of controls that provide reasonable assurance for investors. The company is always responsible for the accuracy and reliability of the financial statements, regardless of whether it is using an outside third-party vendor or service provider for its preparation. The filer should work either to ensure the financial printer has the essential controls in place or create controls within the review process.

CONCLUSION

At this time in the United States, public filers are mandated by the SEC to provide a copy of their financial statements in an XBRL format. These companies are now fully liable with any material mistakes and errors published in the XBRL-based financial statements. While the company is fully liable, auditors are not providing assurance over such financial statements because regulations and laws do not require them to. For these reasons, it is important for internal audit to overlook the accuracy and completeness of these financial statements because auditors are failing to do so.

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RISKS ASSOCIATED WITH XBRL

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